

**APPENDIX B**  
**MARKED-UP VERSION OF SUBSTITUTE SEQUENCE LISTING**  
**WITH MARKINGS TO SHOW CHANGES MADE**  
**(Application Serial No. 10/028,075)**

## SEQUENCE LISTING

<110> Khan, Nisar A.  
Benner, Robert

<120> Gene regulator

<130> 2183-5223US

<140> 10/028,075

<141> 2001-12-21

<150> EP 01203748.7

<151> 2001-10-04

<160> 175

<170> PatentIn Ver. 2.1

<210> 1

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 1

Leu Gln Gly Val

1

<210> 2

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 2

Ala Gln Gly Val

1

<210> 3

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 3

Val Leu Pro Ala Leu Pro  
1 5

<210> 4  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 4  
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro  
1 5 10 15

<210> 5  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 5  
Met Leu Ala Arg Arg Lys Pro  
1 5

<210> 6  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 6  
Met Leu Ala Arg  
1

<210> 7  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 7  
Val Leu Pro Ala Leu Thr  
1 5

<210> 8

<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1QMH/1QMH-A

<400> 8  
Val Leu Pro Ala Leu  
1 5

<210> 9  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/4NOS/4NOS-A

<400> 9  
Phe Pro Gly Cys  
1

<210> 10  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.297775.1

<400> 10  
Pro Gly Cys Pro  
1

<210> 11  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swiss/P81272/NS2B HUMAN

<400> 11  
Gly Val Leu Pro Ala Val Pro  
1 5

<210> 12

<211> 6  
<212> PRT  
<213> Artificial Sequence  
<220>  
<223> Description of Artificial Sequence:  
swiss/P81272/NS2B HUMAN

<400> 12  
Val Leu Pro Ala Val Pro  
1 5

<210> 13  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1FZV/1FZV-A

<400> 13  
Pro Ala Val Pro  
1

<210> 14  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 14  
Leu Gln Gly Val Val Pro Arg Gly Val  
1 5

<210> 15  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 15  
Gly Val Val Pro  
1

<210> 16  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 16  
Val Pro Arg Gly Val  
1 5

<210> 17  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 17  
Pro Arg Gly Val  
1

<210> 18  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: polypeptide

<400> 18  
Met Ala Pro Lys Lys  
1

<210> 19  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 19  
Leu Gln Gly Ala  
1

<210> 20  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 20

Val Leu Pro Ala Leu Pro Gln Val Val Cys  
1 5 10

<210> 21

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 21

Ala Leu Pro Ala Leu Pro  
1 5

<210> 22

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 22

Val Ala Pro Ala Leu Pro  
1 5

<210> 23

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 23

Ala Leu Pro Ala Leu Pro Gln  
1 5

<210> 24

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 24

Val Leu Pro Ala Ala Pro Gln

1	5
---	---

<210> 25  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> Description of Artificial Sequence: oligopeptide

<400> 25  
 Val Leu Pro Ala Leu Ala Gln  
     1                    5

<210> 26  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: oligopeptide

<400> 26  
 Leu Ala Gly Val  
     1

<210> 27  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: oligopeptide

<400> 27  
 Val Leu Ala Ala Leu Pro  
     1                    5

<210> 28  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: oligopeptide

<400> 28  
 Val Leu Pro Ala Leu Ala  
     1                    5

<210> 29  
 <211> 7  
 <212> PRT



<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 29

Val Leu Pro Ala Leu Pro Gln  
1 5

<210> 30

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 30

Val Leu Ala Ala Leu Pro Gln  
1 5

<210> 31

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 31

Val Leu Pro Ala Leu Pro Ala  
1 5

<210> 32

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 32

Gly Val Leu Pro Ala Leu Pro  
1 5

<210> 33

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 33

Gly Val Leu Pro Ala Leu Pro Gln  
1 5

<210> 34

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 34

Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys  
1 5 10

<210> 35

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 35

Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro  
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu  
20 25 30

Ser Cys Gln Cys Ala Leu  
35

<210> 36

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 36

Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys  
1 5 10 15

<210> 37

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 37

Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly  
1 5 10 15

Tyr Cys Pro Thr  
20

<210> 38

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 38

Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly  
1 5 10 15

Pro Ser

<210> 39

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 39

Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser  
1 5 10 15

<210> 40

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 40

Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser  
1 5 10

<210> 41

<211> 4

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 41  
Leu Pro Gly Cys  
1

<210> 42  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 42  
Met Thr Arg Val  
1

<210> 43  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 43  
Gln Val Val Cys  
1

<210> 44  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 44  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 45  
<211> 35  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 45

Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu  
1 5 10 15

Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly Tyr  
20 25 30

Cys Pro Thr  
35

<210> 46

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 46

Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp  
1 5 10 15

His Pro Leu Thr Cys  
20

<210> 47

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 47

Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu  
1 5 10 15

Thr Cys

<210> 48

<211> 37

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 48

Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro  
1 5 10 15

Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr  
20 25 30

Pro Ile Leu Pro Gln  
35

<210> 49

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 49

Leu Gln Gly Val Leu Pro Ala Leu Pro Gln  
1 5 10

<210> 50

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF peptide

<400> 50

Cys Pro Arg Gly Val Asn Pro Val Val Ser  
1 5 10

<210> 51

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: probe to  
represent the NF-kappaB binding sequence

<400> 51

agctcagagg gggactttcc gagag 25

<210> 52  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: peptide LQAV  
           showed smaller infarcted area  
  
 <400> 52  
 Leu Gln Ala Val  
   1  
  
 <210> 53  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
           pdb/1DE7/1DE7-A  
  
 <400> 53  
 Leu Gln Gly Val Val  
   1                  5  
  
 <210> 54  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
           pdb/1DE7/1DE7-A  
  
 <400> 54  
 Leu Gln Gly Val Val Pro  
   1                  5  
  
 <210> 55  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
           pdb/1DL6/1DL6-A  
  
 <400> 55  
 Leu Asp Ala Leu Pro  
   1                  5

<210> 56  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1QMH/1QMH-A  
  
 <400> 56  
 Leu Gln Thr Val  
       1  
  
 <210> 57  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1QMH/1QMH-A  
  
 <400> 57  
 Leu Val Leu Gln Thr Val Leu Pro Ala Leu  
       1                              5                              10  
  
 <210> 58  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1LYP/1LYP  
  
 <400> 58  
 Ile Gln Gly Leu  
       1  
  
 <210> 59  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1LYP/1LYP  
  
 <400> 59  
 Leu Pro Lys Leu  
       1  
  
 <210> 60  
 <211> 5



<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1LYP/1LYP  
  
 <400> 60  
 Leu Leu Pro Lys Leu  
   1                  5  
  
 <210> 61  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1B9O/1B9O-A  
  
 <400> 61  
 Leu Pro Glu Leu  
   1  
  
 <210> 62  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1GLU/1GLU-A  
  
 <400> 62  
 Pro Ala Arg Pro  
   1  
  
 <210> 63  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/2KIN/2KIN-B  
  
 <400> 63  
 Met Thr Arg Ile  
   1  
  
 <210> 64  
 <211> 4

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 64  
Leu Gln Lys Leu  
1

<210> 65  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 65  
Leu Gln Lys Leu Leu  
1 5

<210> 66  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 66  
Pro Glu Ala Pro  
1

<210> 67  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 67  
Leu Gln Lys Leu Leu Pro Glu Ala Pro  
1 5

<210> 68  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1ES/1ES7-B  
  
 <400> 68  
 Pro Thr Leu Pro  
   1  
  
 <210> 69  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1ES/1ES7-B  
  
 <400> 69  
 Leu Gln Pro Thr Leu  
   1                  5  
  
 <210> 70  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1BHX/1BHX-F  
  
 <400> 70  
 Leu Gln Val Val  
   1  
  
 <210> 71  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1VCB/1VCB-A  
  
 <400> 71  
 Pro Glu Leu Pro  
   1  
  
 <210> 72  
 <211> 4

<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1CQK/1CQK-A  
  
 <400> 72  
 Pro Ala Ala Pro  
       1  
  
 <210> 73  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1CQK/1CQK-A  
  
 <400> 73  
 Pro Ala Ala Pro Gln  
       1                  5  
  
 <210> 74  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1CQK/1CQK-A  
  
 <400> 74  
 Pro Ala Ala Pro Gln Val  
       1                  5  
  
 <210> 75  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1BFB/1BFB  
  
 <400> 75  
 Leu Pro Ala Leu  
       1  
  
 <210> 76  
 <211> 4  
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 76

Pro Ala Leu Pro

1

<210> 77

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 77

Pro Ala Leu Pro Glu

1

5

<210> 78

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1R2A/1R2A-A

<400> 78

Leu Thr Glu Leu Leu

1

5

<210> 79

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: C3G peptide

<400> 79

Pro Pro Pro Ala Leu Pro Pro Lys Lys Arg

1

5

10

<210> 80

<211> 4

<212> PRT

<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
       pdb/1RLQ/1RLQ-R

<400> 80  
 Leu Pro Pro Leu  
       1

<210> 81  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
       pdb/1RLQ/1RLQ-R; swissnew/P01229/LSHB HUMAN

<400> 81  
 Pro Pro Leu Pro  
       1

<210> 82  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: pdb/1TNT/1TNT

<400> 82  
 Leu Pro Gly Leu  
       1

<210> 83  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
       pdb/1GJS/1GJS-A

<400> 83  
 Leu Ala Ala Leu  
       1

<210> 84  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1GJS/1GJS-A

<400> 84  
Leu Ala Ala Leu Pro  
1 5

<210> 85  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1GBR/1GBR-B

<400> 85  
Pro Lys Leu Pro  
1  
<210> 86  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1A78/1A78-A

<400> 86  
Val Leu Pro Ser Ile Pro  
1 5

<210> 87  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1FZV/1FZV-A

<400> 87  
Met Leu Pro Ala Val Pro  
1 5

<210> 88  
<211> 4

<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1JLI/1JLI  
  
 <400> 88  
 Leu Pro Cys Leu  
   1  
  
 <210> 89  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1JLI/1JLI  
  
 <400> 89  
 Pro Cys Leu Pro  
   1  
  
 <210> 90  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1HSS/1HSS-A  
  
 <400> 90  
 Val Pro Ala Leu Pro  
   1                  5  
  
 <210> 91  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1PRX/1PRX-A  
  
 <400> 91  
 Pro Thr Ile Pro  
   1  
  
 <210> 92  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence



<220>  
 <223> Description of Artificial Sequence:  
       pdb/1PRX/1PRX-A

<400> 92  
 Val Leu Pro Thr Ile Pro  
       1                      5

<210> 93  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: pdb/1RCY/1RCY

<400> 93  
 Val Leu Pro Gly Phe Pro  
       1                      5

<210> 94  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: pdb/1A3Z/1A3Z

<400> 94  
 Pro Gly Phe Pro  
       1

<210> 95  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
       pdb/1GER/1GER-A

<400> 95  
 Leu Pro Ala Leu Pro  
       1                      5

<210> 96  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BBS/1BBS

<400> 96

Met Pro Ala Leu Pro  
1 5

<210> 97

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI188872

<220>

<221> MISC\_FEATURE

<222> (2)

<223> The 'Xaa' at position\_2 indicates an unknown amino acid

<400> 97

Met Xaa Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 98

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI188872

<220>

<221> MISC\_FEATURE

<222> (2)

<223> The 'Xaa' at position 2 indicates an unknown amino acid

<400> 98

Met Xaa Arg Val  
1

<210> 99

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI126906

<400> 99

Ile Thr Arg Val Met Gln Gly Val Ile Pro Ala Leu Pro Gln Val Val  
 1 5 10 15

Cys

<210> 100  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: AI221581

<400> 100  
 Met Thr Arg Val Leu Gln Val Val Leu Leu Ala Leu Pro Gln Leu Val  
 1 5 10 15

<210> 101  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Mm.42246.3

<400> 101  
 Lys Val Ile Gln Gly Ser Leu Asp Ser Leu Pro Gln Ala Val  
 1 5 10

<210> 102  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Mm.42246.3

<400> 102  
 Leu Asp Ser Leu  
 1

<210> 103  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Mm.22430.1

<400> 103  
 Val Leu Gln Ala Ile Leu Pro Ser Ala Pro Gln  
 1 5 10

<210> 104  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 104  
Leu Gln Ala Ile Leu  
1 5

<210> 105  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 105  
Pro Ser Ala Pro  
1

<210> 106  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 106  
Lys Val Leu Gln Gly Arg Leu Pro Ala Val Ala Gln Ala Val  
1 5 10

<210> 107  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 107  
Leu Pro Ala Val  
1

<210> 108  
<211> 14

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 108  
Leu Val Gln Lys Val Val Pro Met Leu Pro Arg Leu Leu Cys  
1 5 10

<210> 109  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 109  
Leu Pro Arg Leu  
1

<210> 110  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 110  
Pro Met Leu Pro  
1

<210> 111  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 111  
Pro Ser Ala Pro Gln  
1 5

<210> 112  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: P20155

<400> 112

Leu Pro Gly Cys Pro Arg His Phe Asn Pro Val  
1 5 10

<210> 113

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Rn.2337.1

<400> 113

Leu Val Gly Cys Pro Arg Asp Tyr Asp Pro Val  
1 5 10

<210> 114

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Rn.2337.1

<400> 114

Leu Val Gly Cys  
1

<210> 115

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Hs.297775.1

<400> 115

Pro Gly Cys Pro Arg Gly  
1 5

<210> 116

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.1359.1

<400> 116

Leu Pro Gly Cys Pro  
1 5

<210> 117  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/O56177/O56177

<400> 117  
Val Leu Pro Ala Ala Pro  
1 5

<210> 118  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 118  
Leu Ala Gly Thr Ile Pro Ala Thr Pro  
1 5

<210> 119  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 119  
Pro Ala Thr Pro  
1

<210> 120  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9IYZ3/Q9IYZ3

<400> 120  
Gly Leu Leu Pro Cys Leu Pro  
1 5

<210> 121  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 121  
Pro Gly Ala Pro  
1

<210> 122  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 122  
Leu Pro Gln Arg Pro Arg Gly Pro Asn Pro  
1 5 10

<210> 123  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 123  
Pro Arg Gly Pro  
1

<210> 124  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>



<223> Description of Artificial Sequence: Hs.303116.2

<400> 124

Gly Cys Pro Arg

1

<210> 125

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1DU3/1DU3-A

<400> 125

Gly Cys Pro Arg Gly Met

1

5

<210> 126

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BIO/1BIO

<400> 126

Leu Gln His Val

1

<210> 127

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1FL7/1FL7-B

<400> 127

Val Pro Gly Cys

1

<210> 128

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1HR6/1HR6-A

<400> 128  
Cys Pro Arg Gly  
1

<210> 129  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1H6/1HR6-A

<400> 129  
Leu Lys Gly Cys  
1

<210> 130  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 130  
Pro Pro Gly Pro  
1

<210> 131  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 131  
Leu Pro Gly Cys Pro Arg Glu Val  
1 5

<210> 132  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 132  
Cys Pro Arg Glu  
1

<210> 133  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 133  
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val  
    1                    5                    10                    15

Cys

<210> 134  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 134  
Met Met Arg Val  
    1

<210> 135  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 135  
Val Leu Pro Pro Leu Pro  
    1                    5

<210> 136  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 136  
Val Leu Pro Pro Leu Pro Gln

1 5

<210> 137  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 swissnew/P01229/LSHB HUMAN

<400> 137  
 Ala Val Leu Pro Pro Leu Pro  
 1 5

<210> 138  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 swissnew/P01229/LSHB HUMAN

<400> 138  
 Ala Val Leu Pro Pro Leu Pro Gln  
 1 5

<210> 139  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 swissnew/P07434/CGHB PAPAN

<400> 139  
 Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Val Pro Gln Val Val  
 1 5 10 15

Cys

<210> 140  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 swissnew/P07434/CGHB PAPAN

<400> 140  
Leu Gln Ala Gly  
1

<210> 141  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 141  
Val Leu Pro Pro Val Pro  
1 5

<210> 142  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 142  
Val Leu Pro Pro Val Pro Gln  
1 5

<210> 143  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 143  
Ala Val Leu Pro Pro Val Pro  
1 5

<210> 144  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:

swissnew/P07434/CGHB PAPAN

<400> 144

Ala Val Leu Pro Pro Val Pro Gln  
1 5

<210> 145

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 145

Met Thr Arg Asp  
1

<210> 146

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 146

Gln Asp Val Cys  
1

<210> 147

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 147

Ile Pro Gly Cys  
1

<210> 148

<211> 5

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9Z284/Q9Z284

<400> 148  
Pro Ala Leu Pro Ser  
1 5

<210> 149  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 149  
Leu Pro Gly Gly Pro Arg  
1 5

<210> 150  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 150  
Leu Pro Gly Gly  
1

<210> 151  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 151  
Gly Gly Pro Arg  
1

<210> 152  
<211> 4  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: XP\_028754

<400> 152

Leu Gln Arg Gly  
1

<210> 153

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: XP\_028754

<400> 153

Leu Gln Arg Gly Val  
1 5

<210> 154

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: XP\_028754

<400> 154

Leu Gly Gln Leu  
1

<210> 155

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SignalP (CBS)

<400> 155

Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro  
1 5 10

<210> 156

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule



type I (A\_0201)

<400> 156

Val Leu Gln Gly Val Leu Pro Ala Leu  
1 5

<210> 157

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 157

Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5

<210> 158

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 158

Val Leu Pro Ala Leu Pro Gln Val Val  
1 5

<210> 159

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 159

Arg Leu Pro Gly Cys Pro Arg Gly Val  
1 5

<210> 160

<211> 9

<212> PRT

<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: HLA molecule  
 type I (A\_0201)

<400> 160  
 Thr Met Thr Arg Val Leu Gln Gly Val  
 1 5

<210> 161  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: MHC II (H2-Ak  
 15-mers)

<400> 161  
 Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu  
 1 5 10 15

<210> 162  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: MHC II (H2-Ak  
 15-mers)

<400> 162  
 Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val  
 1 5 10 15

<210> 163  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: HLA-DRB1\*0101  
 15-mers

<400> 163  
 Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser  
 1 5 10 15

<210> 164  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA-DRB1\*0101  
15-mers

<400> 164

Thr	Arg	Val	Leu	Gln	Gly	Val	Leu	Pro	Ala	Leu	Pro	Gln	Val	Val
1				5				10					15	

<210> 165

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA-DRB1\*0101  
15-mers

<400> 165

Leu	Gln	Gly	Val	Leu	Pro	Ala	Leu	Pro	Gln	Val	Val	Cys	Asn	Tyr
1				5				10					15	

<210> 166

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA-DRB1\*0301  
(DR17) 15-mers

<400> 166

Met	Thr	Arg	Val	Leu	Gln	Gly	Val	Leu	Pro	Ala	Leu	Pro	Gln	Val
1				5				10					15	

<210> 167

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA-DRB1\*0301  
(DR17) 15-mers

<400> 167

Ser	Ile	Arg	Leu	Pro	Gly	Cys	Pro	Arg	Gly	Val	Asn	Pro	Val	Val
1				5				10					15	

<210> 168

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 168

Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 169

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF-62  
peptide

<400> 169

Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro  
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu  
20 25 30

Ser Cys Gln  
35

<210> 170

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF-67  
peptide

<400> 170

Cys Pro Arg Gly Val Asn Pro  
1 5

<210> 171

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF-70  
peptide

<400> 171

Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln  
1 5 10

<210> 172  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-75  
peptide

<400> 172  
Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly  
1 5 10 15

Pro Cys

<210> 173  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 173  
Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 174  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-71  
peptide

<400> 174  
Met Thr Arg Val Leu Pro Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys[ \_\_\_\_\_ ]

<210> 175  
<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF peptide

<400> 175

Cys Arg Gly Val Asn Pro Val Val Ser  
1 5

C<sub>1</sub>  
canceled